

**DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
MONTANA POLLUTANT DISCHARGE ELIMINATION SYSTEM
(MPDES)**

Fact Sheet

Permittee:	Town of Joliet
Permit No.:	MT0020249
Receiving Water:	Rock Creek
Facility Information:	
Name:	Town of Joliet domestic wastewater treatment facility
Location:	East end of Joliet, T 4 S, R 22 E, Sec. 13, Carbon County
Facility Contact:	Charles Buechler Public Works Director P.O. Box 210 Joliet, MT 59041
Fee Information:	
Number of Outfalls:	1 (for fee purposes)
Outfall – Type:	001- treated domestic wastewater

I. Permit Status

This is a renewal of the existing MPDES permit MT0020249 for the Town of Joliet (Joliet) domestic wastewater treatment facility (WWTF). The previous permit was effective July 1, 2015 and was set to expire June 30, 2020, but the Montana Department of Environmental Quality (DEQ) administratively extended the permit on January 13, 2021 until such time as DEQ issues a renewed permit.

Summary of Proposed Changes

- No changes are being proposed for the renewed permit.

II. Facility Information

A. Facility Description

Joliet WWTF originally commenced operation in 1952. The original facility design consisted of an aerated Imhoff tank, equipped with additional mechanical skimming and chlorination chambers, and sludge drying beds. The average design flow was 0.06 million gallons per day (mgd) for a population of 600 people. Infiltration into sewer lines contributed to a major portion of the influent which exceeded the design flow. Sewer rehabilitation work was completed in 1980 which significantly reduced infiltration.

Even with appropriate operation and maintenance, Joliet WWTF could not provide adequate treatment of their wastewater. The facility was replaced with a three-cell aerated lagoon system constructed in 1985 and came online in 1986. The current design criteria summary is located in **Table 1**. Effluent discharge is continuous and not disinfected.

Table 1: Current Design Criteria Summary	
Facility Description: Three-cell aerated lagoon, continuous discharge, no disinfection (O&M manual, Sanderson/Stewart/Gaston Engineering, 1986)	
Construction Date: 1986	Modification Date: none to date
Design Population: 934	Current Population: 656
Design Flow, Average (mgd): 0.4 (0.170 winter /0.621 summer)	Design Flow, Maximum Day (mgd): 0.821
Primary Cells: 1 (Normal series operation)	Secondary Cells: 2
Number Aerated Cells: 3	Minimum Detention Time-System (days): 34.7 at winter flow
Design BOD Removal (%): 85	Design BOD Load (lb/day): 187

Design SS Removal (%): not applicable	Design SS Load (lb/day): 168
Collection System Combined [<input type="checkbox"/>] Separate [<input checked="" type="checkbox"/>]	Estimated I/I: 26,848 gpd
Disinfection (Y/N): UV	
Discharge Method: Continuous	
Sludge Storage: none	
Sludge Disposal: not applicable	

B. Effluent Characteristics

Table 2 summarizes monthly self-monitoring data submitted by the permittee for the Period of Record (POR) from February 2017 through December 2021.

Table 2: Effluent Characteristics ⁽¹⁾ from February 2017 through December 2021.							
Parameter	Location	Units	Previous Permit Limit	Minimum Value	Maximum Value	Average Value	Number of Samples
Flow, Daily Average	Effluent	mgd	(2)	0.03	0.22	0.07	59
5-Day Biochemical Oxygen Demand (BOD ₅)	Influent	mg/L	(2)	38	480	161	59
	Effluent	mg/L	30/45 ⁽³⁾	0.0	51.5	6.6	59
	NA	% removal	85	58.4	100	93.5	59
	Effluent	lbs/day	42.5/63.8 ⁽³⁾	0.0	37.2	3.3	59
	Influent	mg/L	(2)	22	423	168	59
Total Suspended Solids (TSS)	Effluent	mg/L	45/65 ⁽³⁾	0.0	83.3	12.3	52
	NA	% removal	65	51.6	100	80.7	52
	Effluent	lbs/day	63.8/92.2 ⁽³⁾	0.0	61.0	5.4	52
	Effluent	cfu ⁽⁷⁾ /100ml	126/252 ⁽⁸⁾	1	26	2	33
<i>Escherichia coli</i> (E. coli) bacteria ⁽⁴⁾ ⁽⁶⁾	Effluent	cfu/100ml	630/1260 ⁽⁸⁾	1	6	2	24
<i>Escherichia coli</i> (E. coli) bacteria ⁽⁵⁾ ⁽⁶⁾	Effluent	cfu/100ml	630/1260 ⁽⁸⁾	1	6	2	24
pH	Effluent	s.u.	6-9	6.5	9.1	7.7	59
Total Ammonia, as N	Effluent	mg/L	5.98/16.55	0.2	21.2	5.5	59
Kjeldahl Nitrogen, as N	Effluent	mg/L	(2)	1.7	2.5	4.8	15
Nitrate + Nitrite, as N	Effluent	mg/L	(2)	0.02	10.1	2.9	59
Total Nitrogen	Effluent	mg/L	(2)	2.0	5.1	2.9	15
		lbs/day	53.04 ⁽⁹⁾	0.05	4.0	1.5	15
Total Phosphorus	Effluent	mg/L	(2)	0.02	6.8	5.1	15
		lbs/day	15.35 ⁽⁹⁾	0.01	7.8	2.7	15
Oil and Grease	Effluent	mg/L	(2)	ND	5.6	4.2	22
Footnotes: (1) NA - Not applicable; ND - Non detect.							

Table 2: Effluent Characteristics ⁽¹⁾ from February 2017 through December 2021.

- (2) No limit in previous permit; monitoring requirement only.
- (3) Monthly average/Weekly average.
- (4) Limit applies from April 1 through October 31.
- (5) Limit applies from November 1 through March 31.
- (6) Geometric Mean if more than one sample is collected in the report period.
- (7) Colony forming units.
- (8) Monthly average /Maximum Daily.
- (9) Limit applies from July 1 through September 30.

C. Compliance History

The Town of Joliet signed an Executed Administrative Order on Consent (AOC) with the DEQ for effluent exceedances. DEQ conducted a compliance evaluation inspection of Joliet WWTF on February 21, 2020 and did not identify any violations.

III. Proposed Technology-Based Effluent Limits (TBELs)

A. TBELs Standards and Limits

TBELs represent the minimum level of control that must be imposed by a permit issued under the MDPES program, as stated at 40 CFR 122.44(a) and adopted by reference in ARM 17.30.1344(2)(b). DEQ must consider technology available to treat wastewater, and limits that can be consistently achieved by that technology. TBELs are based on currently available treatment technologies and allow the permittee the discretion to choose applicable controls to meet those standards.

The Montana Board of Environmental Review (BER) has adopted general treatment requirements that establish the degree of wastewater treatment required to restore and maintain the quality of surface waters. This rule states that the degree of wastewater treatment is based on the surface water quality standards; the state's nondegradation policy; present and anticipated beneficial uses of the receiving water; the quality and flow of the receiving water; the quantity and quality of sewage, industrial wastes and other wastes to be treated; and the presence or absence of other sources of pollution on the same watershed.

TBELs – Concentration-Based Calculations

The BER has adopted by reference 40 CFR 133 which defines minimum treatment requirements for secondary treatment, or the equivalent, for publicly-owned treatment works (POTW). Secondary treatment is defined in terms of effluent quality as measured by BOD₅, TSS, percent removal of BOD₅ and TSS, and pH. TBELs are based on currently available treatment technologies and allow the permittee the discretion to choose applicable controls to meet those standards.

These requirements may be modified on a case-by-case basis for facilities that are eligible for treatment equivalent to secondary (TES) treatment [40 CFR 133.101(g)] or alternative state requirements (ASR) for TSS. To determine if a facility is eligible for TES the facility must meet the requirements of 40 CFR 133.101(g), summarized as follows:

The BOD₅ and TSS consistently achievable through proper operation and maintenance of the treatment works exceed the minimum effluent quality described for secondary treatment [40 CFR 132.102]; the treatment works utilize a trickling filter or waste stabilization pond; and the treatment works utilizes biological treatment that consistently achieves a 30-day average of at least 65 percent removal [40 CFR 133.101(k)].

Water quality must not be adversely affected by the application of equivalent to secondary treatment. Effluent limits for BOD₅ cannot be relaxed unless the permittee has demonstrated that the relaxed limits will not result in a violation of water quality standards in the receiving water.

In addition to TES, permitting agencies may give special consideration to treatment works that employ waste stabilization ponds as the primary method for treating wastes. ASR may be incorporated into permits for lagoons if historic data for the system indicates that effluent limits based on TES cannot be achieved. The 30-day ASR for TSS in Montana is 100 mg/L; DEQ employed a 135 mg/L TSS for a 7-day limit based on best professional judgment. ASR limits may be incorporated as seasonal limits. New facilities are not eligible for ASR.

In the previous permits, the BOD₅ and TSS effluent limits were based on national secondary treatment standards (NSS). The facility has demonstrated the capability of achieving effluent quality at NSS.

TBELs – Mass-Based Calculations

Effluent limits must be expressed in terms of mass (mass/time), except for certain conditions, such as pH or temperature. For municipal treatment plants, mass-based limits are based on design flow for the facility.

The winter design flow rate (0.17 MGD) is used for mass-based limit calculation. Mass based limits are calculated as follows:

$$\text{Load (lbs/day)} = \text{Design Flow (mgd)} \times \text{Concentration (mg/L)} \times \text{Conversion Factor (8.34)}$$

BOD₅:

30-d	Load = 0.170 mgd x 30 mg/L x 8.34 =	42.5 lb/day
7-d	Load = 0.170 mgd x 45 mg/L x 8.34 =	63.8 lb/day

TSS:

$$\begin{aligned} 30\text{-d Load} &= 0.170 \text{ mgd} \times 30 \text{ mg/L} \times 8.34 = 42.5 \text{ lb/day} \\ 7\text{-d Load} &= 0.170 \text{ mgd} \times 45 \text{ mg/L} \times 8.34 = 63.8 \text{ lb/day} \end{aligned}$$

Table 3: TBELs based on Secondary Treatment Standards				
Parameter	Units	Average Monthly Limit	Average Weekly Limit	Rationale
BOD ₅	mg/L	30	45	40 CFR 133.102(a)
	lbs/day	42.5	63.8	
	% removal	85 ⁽¹⁾	--	
TSS	mg/L	30	45	40 CFR 133.102(b)
	lbs/day	42.5	63.8	
	% removal	85 ⁽¹⁾	--	
pH	s.u.	6.0-9.0 (instantaneous)		40 CFR 133.102(c)
Footnotes:				
(1) The arithmetic mean of the values for BOD ₅ and TSS for effluent samples collected in a period of 30 consecutive days shall not exceed 15% of the arithmetic mean of the values for influent samples collected at approximately the same time during the same period (85% removal).				

B. Nondegradation Load Allocations

Joliet WWTF has not increased flow or undergone any modifications that would be considered a “new or increased source”, and a nonsignificance analysis is not required.

Baseline loads and the actual average loads discharged from the facility are presented in **Table 4**.

Table 4: Outfall 001 Nondegradation and Actual Loads							
Nondegradation Load Allocation Limits ⁽¹⁾			Actual 30-day Average Loads				
Parameter	Units	Annual Average Load	2017	2018	2019	2020	2021
BOD ₅	lbs/day	65.5	4.4	2.5	2.8	5.7	2.4
TSS	lbs/day	333.6	8.1	5.8	3.4	5.8	13.6
Footnotes:							
(1) TSS load was calculated using an average of the winter and summer design flow (0.4 mgd). BOD ₅ load was calculated by applying 65% removal to the design loading amount (187 lbs/day).							

IV. Receiving Water

A. Classification

Wastewater is discharged from the facility to Rock Creek. The receiving water is classified as B-1. Waters classified B-1 are to be maintained suitable for drinking, culinary, and food processing purposes after conventional treatment; bathing, swimming, and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply.

Rock Creek is located within the Upper Yellowstone River Basin and in the United States Geological Survey (USGS) 4th Field Hydrological Unit Code (HUC) 10070006, identified as Clarks Fork of the Yellowstone. The Montana assessment unit for Rock Creek at the point of discharge is MT43D002_120, identified as the reach from the confluence of Red Lodge Creek to the Clarks Fork of the Yellowstone River.

The receiving water in the vicinity of the discharge is listed on the 2020 303(d) List with the identified causes of impairments of flow alterations from water diversions and irrigated crop production. A Total Maximum Daily Load (TMDL) is not required because the impairments resulted from dewatering.

The 7-day 10-year low flow (7Q10) of Rock Creek is 28.1 cubic feet per second (cfs) based on a combined 7Q10 from USGS stations 06212500 (Red Lodge Creek below Cooney Reservoir, near Boyd), 06209500 (Rock Creek near Red Lodge), and 06210500 (West Fork Rock Creek near Red Lodge). For nutrients, the seasonal 14-day, five-year low flow (14Q5) of the receiving water is used by EPA for reasonable potential analyses. The 14Q5 of Rock Creek is 66.07 cfs.

B. Mixing Zone

A mixing zone is granted on a parameter-by-parameter basis, and must be of the smallest practicable size, have a minimum effect on water uses, and have definable boundaries. Mixing zones are not granted for TBELs, Effluent Limitations Guidelines (ELGs), or other technology-based standards.

Although certain standards may be exceeded in the mixing zone, an effluent in its mixing zone may not block passage of aquatic organisms nor may it cause acutely toxic conditions. No mixing zone will be granted that will impair beneficial uses. Aquatic life-chronic, aquatic life-acute and human health standards may not be exceeded outside of the mixing zone.

Acute water quality standards for aquatic life may not be exceeded in any portion of the mixing zone unless DEQ finds that allowing minimal initial dilution will not threaten or impair existing beneficial uses. The discharge must also be free from substances which will:

- settle to form objectionable sludge deposits or emulsions beneath the surface of the water or upon adjoining shorelines;

- create floating debris, scum, a visible oil film (or be present in concentrations at or in excess of 10 milligrams per liter) or globules of grease or other floating materials;
- produce odors, colors or other conditions as to which create a nuisance or render undesirable tastes to fish flesh or make fish inedible;
- create concentrations or combinations of materials which are toxic or harmful to human, animal, plant or aquatic life; and
- create conditions which produce undesirable aquatic life.

DEQ determines the applicability of a mixing zone. Any previously allowed mixing zone will remain designated in a renewed permit, unless there is evidence that the previously allowed mixing zone will impair existing or anticipated uses. DEQ has determined that an alternative mixing zone for Ammonia will not threaten or impair existing beneficial uses. Therefore, the use of 10% of the 7Q10 for development of Ammonia effluent limits based on chronic aquatic life standards and the use of 1% of the 7Q10 for development of Ammonia effluent limits based on acute aquatic life standards under an alternative mixing zone are appropriate. DEQ also used 10% dilution for assessment of reasonable potential of nitrate.

V. Proposed Water-Quality Based Effluent Limits (WQBELs)

Scope and Authority

Permits are required to include WQBELs when TBELs are not adequate to protect state water quality standards. No wastes may be discharged that can reasonably be expected to violate any state water quality standards. Montana water quality standards define both water use classifications for all state waters and numeric and narrative standards that protect those designated uses.

Calculations for Reasonable Potential (RP)

For purposes of assessing the need for and calculating WQBELs, DEQ uses a mass-balance equation (*Equation 1*) to determine the concentration of a pollutant of concern after accounting for other sources of pollution in the receiving water and any dilution provided by a mixing zone. *Equation 1* is based on the EPA Technical Support Document for Water Quality-based Toxics Control (TSD)(EPA/505/2-90-001).

$$Q_r C_r = Q_s C_s + Q_d C_d \text{ (Equation 1)}$$

Where:

Q_s	=	receiving water low flow rate above point of discharge (mgd)
C_s	=	upstream receiving water pollutant concentration (mg/L)
Q_d	=	effluent flow rate (mgd)
C_d	=	effluent pollutant concentration (mg/L)
Q_r	=	receiving water flow rate after discharge ($Q_r = Q_s + Q_d$; mgd)
C_r	=	receiving water pollutant concentration (after dilution; mg/L)

Pollutants typically present in domestic lagoon effluent that may cause or contribute to a violation of numeric and/or narrative water quality standards include conventional pollutants such as biological material (measured by BOD₅), total suspended solids (TSS), oil & grease (O&G), pathogenic bacteria (*Escherichia coli*), pH; and non-conventional pollutants such as ammonia and nutrients (total nitrogen and total phosphorus). WQBELs are required to protect water quality standards when TBELs are not adequate. WQBELs requirements will be summarized in the following subsections.

A. Conventional Pollutants

BOD₅, TSS, and pH – The Joliet WWTF provides significant reduction in biological material and solids through secondary treatment (TBELs). These limits are sufficient to protect water quality and no additional WQBELs are necessary for these parameters.

Oil and Grease (O&G) – The previous permit did not include limits for O&G, but did require monitoring for this parameter. General water quality standards prohibit discharges that create a visible oil sheen, globules of grease or other floating materials, or O&G to be present in concentrations at or in excess of 10 mg/L.

O&G was not present in concentrations at or in excess of 10 mg/L the Joliet WWTF's discharge. Therefore, no reasonable potential exists for exceedances in O&G narrative standards. Monitoring will be retained and reduced to semi-annually.

Escherichia coli (E. coli) -The standards applicable for *E. coli* to the receiving surface water are:

- April 1 through October 31 of each year - the geometric mean number of *E. coli* must not exceed 126 colony forming units (cfu) per 100 milliliters (mL) and 10% of the total samples may not exceed 252 cfu per 100 ml during any 30-day period; and
- November 1 through March 31 of each year - the geometric mean number of *E. coli* must not exceed 630 cfu per 100 ml and 10% of the total samples may not exceed 1,260 cfu per 100 ml during any 30-day period.

The previous permit includes effluent limits for *E. coli* as weekly and 30-day geometric mean applied at the point of discharge. These limits will be retained in this permit renewal.

B. Non-conventional Pollutants

Nitrate + Nitrite, as N – There are no NO₃/NO₂ limits in the previous permit. The human health water quality standard for NO₃/NO₂ in Rock Creek is 10 mg/L with no seasonal aspect. In addition, DEQ-7 specifies that no samples in surface water or groundwater may exceed this standard.

The maximum Joliet effluent NO₃/NO₂ level reported was 10.1 mg/L. Based on a CV of 0.6, the TSD Table 3-2 multiplier is 1.4. Applying the multiplier to the maximum reported value, the calculated maximum effluent NO₃/NO₂ concentration is 14.1 mg/L. Equation 1 was used to determine RP, using a TSD calculated maximum effluent NO₃/NO₂ level of 14.1 mg/L; 2.81 cfs (10% of the 7Q10) for human health; design WWTF flow (0.6 cfs); and a background level of NO₃/NO₂ in the Rock Creek of 0.13 mg/L.

The calculated RP value is 2.6 mg/L for human health, which does not exceed the water quality standard. Therefore, RP does not exist to exceed the water quality standards in the Rock Creek. No effluent limits on NO₃/NO₂ will be applied to the discharge from the Joliet WWTP during this renewal cycle. However, monitoring requirements for NO₃/NO₂ will be continued in the renewed permit.

Total Ammonia as N - Standards for total ammonia are pH and temperature dependent. Standard calculations are outlined in the Department Circular DEQ-7. Total ammonia standards are further defined as acute one-hour average (CMC) and chronic 30-day average (CCC) criterion. The fishery present and associated life stages are also taken into consideration for ammonia standard calculations.

Water quality standards for total ammonia as N were calculated using the ambient receiving water data collected by the permittee during the previous permit cycle. These data are summarized in **Table 5**.

Table 5: Ammonia Standard Calculations^{(1) (2)}						
Condition	Period	Salmonids Present	Early Life Stages Present	Ambient Condition ⁽³⁾		Water Quality Standard ⁽⁴⁾ (mg/L)
				pH (s.u)	Temperature °C	
Acute	Annual	Yes	NA	7.6	NA	11.4
Chronic	Annual	NA	Yes	7.6	15.4 ⁽³⁾	3.61
Footnotes:						
(1) The receiving water data is based on 12 samples from the POR.						
(2) NA – Not Applicable.						
(3) Based on 75 th percentile of data.						
(4) Based on Department Circular DEQ-7.						

The maximum effluent concentration of total ammonia-N reported from the Joliet WWTP was 21.2 mg/L. Based on a CV of 0.6, the TSD Table 3-2 multiplier is 1.4. Applying the multiplier to the maximum reported value, the calculated maximum effluent total ammonia-N concentration is 29.7 mg/L. Equation 1 was used to determine RP, using a TSD calculated maximum effluent total ammonia-N level of 29.7 mg/L; 2.81 cfs (10% 7Q10) for chronic and 0.28 cfs (1% of the 7Q10) for acute; design WWTP flow (0.6 cfs); and a background level of total ammonia-N in Rock Creek of 0.05 mg/L.

The calculated values are 5.3 mg/L for chronic and 20.3 mg/L for acute. Reasonable potential exists to exceed ammonia standards. The existing permits limits are based on the amount of pollutant in the discharge that the receiving water may assimilate and not exceed the applicable water quality standard. These limits will be continued in the renewed permit.

Nutrients [Total Nitrogen (TN) and Total Phosphorus (TP)] - With a summer dilution ratio of 107, Joliet WWTP's discharge is small compared to the flow of Rock Creek. The EPA considers federal standards consisting of a TN of 1.3 mg/L and TP of 0.15 mg/L applicable to Rock Creek by Joliet. DEQ evaluated the Joliet WWTF for RP under the federal TN and TP values.

Total Nitrogen - The maximum effluent concentration of TN reported from the Joliet WWTF was 5.1 mg/L. Based on a CV of 0.3, the TSD Table 3-2 multiplier is 1.2. Applying the multiplier to the maximum reported value, the calculated maximum June through September effluent TN concentration is 6.1 mg/L. Equation 1 was used to determine RP, using a TSD calculated maximum effluent TN level of 6.1 mg/L; 42.7 mgd (14Q5); design WWTP flow (0.4 mgd); and a background level of TN in the Rock Creek of 0.62 mg/L.

The calculated RP value is 0.67 mg/L, which does not exceed the federal water quality standards. Therefore, RP does not exist to exceed the federal numeric water quality standards for TN in Rock Creek.

Total Phosphorus - The maximum effluent concentration of TP reported from the Joliet WWTF was 6.8 mg/L. Based on a CV of 0.4, the TSD Table 3-2 multiplier is 1.3. Applying the multiplier to the maximum reported value, the calculated maximum June through September effluent TP concentration is 8.8 mg/L. Equation 1 was used to determine RP, using a TSD calculated maximum effluent TN level of 8.8 mg/L; 42.7 mgd (14Q5); design WWTP flow (0.4 mgd); and a background level of TN in the Rock Creek of 0.057 mg/L.

The calculated RP value is 0.14 mg/L, which is slightly below the federal water quality standards. Therefore, RP does not exist to exceed the federal numeric water quality standards for TP in Rock Creek.

Joliet WWTP's existing TN and TP load limits and monitoring will be continued in the renewed permit.

VI. Final Effluent Limits

Final limits for Outfall 001 in **Table 6** are effective upon the renewal date of the permit.

Table 6: Final Effluent Limits for Outfall 001				
Parameter	Units	Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit
Biochemical Oxygen Demand (BOD ₅)	mg/L	30	45	--
	lbs/day	42.5	63.8	--
	% removal	85	--	--
Total Suspended Solids (TSS)	mg/L	30	45	--
	lbs/day	42.5	63.8	--
	% removal	85	--	--
<i>E. coli</i> bacteria ^{(1), (3)}	cfu/100mL	126	252	--
<i>E. coli</i> bacteria ^{(2), (3)}	cfu/100mL	630	1260	--
Total Ammonia, as N	mg/L	5.98	--	16.55
Total Nitrogen (TN) ⁽⁴⁾	lbs/day	53.04	--	--
Total Phosphorus (TP) ⁽⁴⁾	lbs/day	15.35	--	--
pH	s.u.	6.0-9.0 (instantaneous)		
Footnotes:				
(1) Limit applies from April 1 through October 31.				
(2) Limit applies from November 1 through March 31.				
(3) Report Geometric Mean if more than one sample is collected in the reporting period.				
(4) Limit applies from July1 through September 30.				

VII. Monitoring Requirements

Monitoring of the effluent must be representative of the discharge. The effluent sample must be obtained from one of the two manholes prior to effluent being combined with any liquid from piping to the manmade ditch. Monitoring must be conducted according to test procedures approved under Part 136, Title 40 of the Code of Federal Regulations, unless other test procedures have been specified in the permit. Joliet WWTF monitoring requirements effective upon renewal are displayed in **Table 7**.

Table 7: Monitoring Requirements					
Parameter	Unit	Sample Location	Sample Frequency	Sample	Sample Type
Flow	mgd	Effluent	1/Week	Maximum Daily Monthly Average	Instantaneous
5-Day Biochemical Oxygen Demand (BOD ₅)	mg/L	Influent	1/Month	Monthly Average	Composite
	mg/L	Effluent	1/Week	Weekly Average	Grab
	lb/day	Effluent	1/Month	Monthly Average	Calculated
	% removal	Effluent	1/Month	Monthly Average	Calculated
Total Suspended Solids (TSS)	mg/L	Influent	1/Month	Monthly Average	Composite
	mg/L	Effluent	1/Week	Weekly Average	Grab
	lb/day	Effluent	1/Month	Monthly Average	Calculated
	% removal	Effluent	1/Month	Monthly Average	Calculated
pH	s.u.	Effluent	1/Week	Daily Minimum Daily Maximum	Instantaneous
<i>E. coli</i> bacteria ⁽¹⁾	cfu/100mL	Effluent	1/Month	Monthly Average	Grab
Oil and Grease ⁽²⁾	mg/L	Effluent	Semi-annual	Monthly Maximum	Grab
Total Ammonia, as N ⁽³⁾	mg/L	Effluent	2/Month	Monthly Average	Grab
Nitrate + Nitrite, as N	mg/L	Effluent	1/Month	Monthly Average	Grab
Total Kjeldahl Nitrogen ⁽⁵⁾	mg/L	Effluent	1/Month	Monthly Average	Grab
Total Nitrogen, as TN ⁽⁴⁾⁽⁵⁾	mg/L	Effluent	1/Month	Monthly Average	Calculated
	lb/day	Effluent	1/Month	Monthly Average	Calculated
Total Phosphorus, as TP ⁽⁵⁾	mg/L	Effluent	1/Month	Monthly Average	Grab
	lb/day	Effluent	1/Month	Monthly Average	Calculated
Footnotes: (1) Report Geometric Mean if more than one sample is collected in the reporting period. (2) Use EPA Method 1664, Revision A: N-Hexane Extractable Material (HEM), or equivalent. (3) pH and Temperature must be collected. (4) Calculated as the sum of Nitrate + Nitrite (as N) and Total Kjeldahl Nitrogen (as N) concentrations. (5) Monitoring applies from July 1 through September 30.					

VIII. Special Conditions/Compliance Schedule

A. Upstream Monitoring Requirements

The permittee shall conduct monitoring of Nitrate, Total Kjeldahl Nitrogen, Total Nitrogen (TN) and Total Phosphorus (TP) levels in Rock Creek upstream from the discharge point during the months of July, August, and September. Monitoring requirements are displayed in **Table 8**. Currently, DEQ has limited background data available for Rock Creek and this information could be used to assess RP for the next permit renewal.

Table 8: Upstream Monitoring Requirements⁽¹⁾					
Parameter	Unit	Sample Location	Sample Frequency	Reporting Requirements	Sample Type
Nitrate + Nitrite, as N	mg/L	Effluent	1/Month	Monthly Average	Grab
Total Kjeldahl Nitrogen	mg/L	Effluent	1/Month	Monthly Average	Grab
Total Nitrogen (TN) ⁽²⁾	mg/L	Effluent	1/Month	Monthly Average	Calculated
Total Phosphorus (TP)	mg/L	Effluent	1/Month	Monthly Average	Grab
Footnotes:					
(1) Monitoring applies from July 1 through September 30.					
(2) Calculated as the sum of Nitrate + Nitrite (as N) and Total Kjeldahl Nitrogen (as N) concentrations.					

IX. Public Participation

Public comments are invited any time prior to the close of the business November 3, 2022. Comments may be directed to:

DEQ Permitting and Compliance Division
 Water Protection Bureau
 PO Box 200901
 Helena, MT 59620

or DEQWPBPublicComments@mt.gov.

All comments received or postmarked prior to the close of the public comment period will be considered in the formulation of the final permit. DEQ will respond to all substantive comments and issue a final decision within sixty days of the close of the public comment period or as soon as possible thereafter.

All persons, including applicants, who believe any condition of a draft permit is inappropriate or that DEQ's tentative decision to deny an application, terminate a permit, or prepare a draft permit is inappropriate, shall raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position by the close of the public comment period (including any public hearing).

Copies of the public notice were mailed to the Discharger, state and federal agencies and interested persons who have expressed interest in being notified of permit actions. A copy of the distribution list is available in the administrative record for this permit. In addition to mailing the public notice, a copy of the notice and applicable draft permit, fact sheet and EA were posted on the DEQ website for 30 days.

Any person interested in being placed on the mailing list for information regarding this MPDES Permit contact DEQ, reference this Facility, and provide a name, address, and phone number.

During the public comment period provided by the notice, DEQ will accept requests for a public hearing. A request for a public hearing must be in writing and must state the nature of the issue proposed to be raised in the hearing.

X. Citations

1. Federal Water Pollution Control Act (Clean Water Act), 33 U.S.C. §§ 1251-1387.
2. US Code of Federal Regulations, 40 CFR Parts 122-125, 130-133, & 136.
3. Montana Code Annotated (MCA), Title 75-5-101, *et seq.*, “Montana Water Quality Act,”.
4. Administrative Rules of Montana Title 17 Chapter 30 - Water Quality
 - Subchapter 2 - Water Quality Permit and Application Fees.
 - Subchapter 5 - Mixing Zones in Surface and Ground Water.
 - Subchapter 6 - Montana Surface Water Quality Standards and Procedures.
 - Subchapter 7- Nondegradation of Water Quality.
 - Subchapter 12 - Montana Pollutant Discharge Elimination System (MPDES) Standards.
 - Subchapter 13 - MPDES Permits.
5. Montana DEQ Circular DEQ-7, Montana Numeric Water Quality Standards,.
6. Integrated 303(d)/305(b) Water Quality Report for Montana.
7. US Department of Interior Geological Survey, Statistical Summaries of Streamflow in Montana and Adjacent Areas, Water Years 1900 through 2002, Scientific Investigations_Report 2004-5266.
8. US EPA Technical Support Document for Water Quality-Based Toxics Control, EPA/505/2-30-001.
9. US EPA National Pollutant Discharge Elimination System (NPDES) Permit Writers’ Manual, EPA 833-K-10-001.
10. Sanderson/Stewart/Gaston Engineering, Inc. Operation and Maintenance Instructions for Wastewater Treatment and Disposal System, Town of Joliet, Montana.